

Destination L1: A Thematic Unit

Sweepstakes!

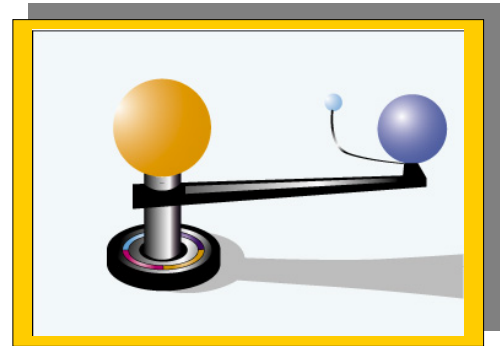
STUDENT ACTIVITY

BACKGROUND INFORMATION

In this activity you will learn about Kepler's Second Law of Planetary Motion by participating in a discovery activity.

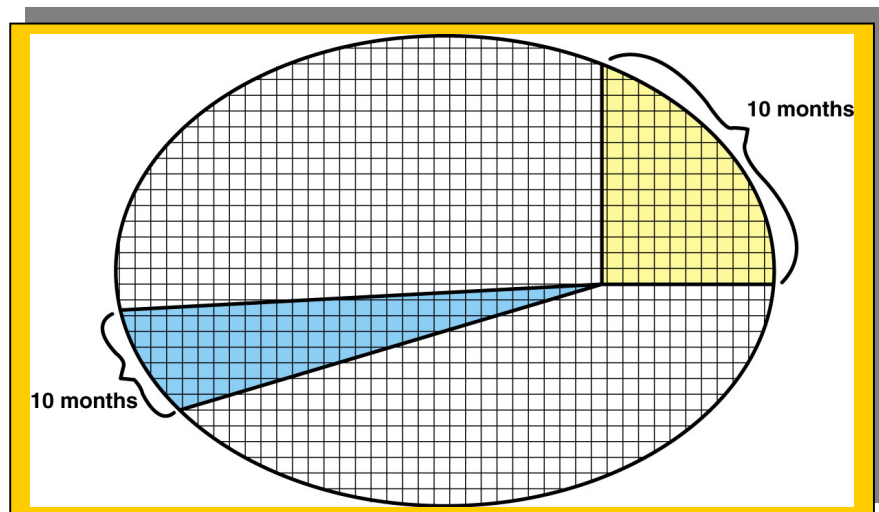
PROCEDURE

1. Observe the following [animation](#). Describe the motion of the planet that is orbiting the sun in an elliptical orbit. Describe the speed of the planet at different locations.



McREL

2. Observe the following diagram. This shows an elliptical orbit of a planet around the sun. Determine the area of the two shaded areas.



McREL

3. If it takes a planet the same amount of time to move from point A to point B as it does from point C to point D, what can you say about the speed of the planet as it moves around the sun in this elliptical orbit?



4. Using what you learned from the above exercise, fill in the blanks below to indicate Kepler's Second Law of Planetary Motion.

A planet sweeps out equal _____ in equal _____.

5. Describe the speed of the planet at perihelion (closest point to the sun) versus aphelion (furthest point from the sun).